

BEFORE THE  
POSTAL REGULATORY COMMISSION  
WASHINGTON, D.C. 20268-0001

PERIODIC REPORTING  
(PROPOSAL FOUR)

Docket No. RM2021-7

**RESPONSES OF THE UNITED STATES POSTAL SERVICE  
TO QUESTIONS 1-9 OF CHAIRMAN'S INFORMATION REQUEST NO. 1**  
(August 12, 2021)

The United States Postal Service hereby provides its responses to the above listed questions of Chairman's Information Request No. 1, issued August 6, 2021. The questions are stated verbatim and followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorney:

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August 12, 2021

**RESPONSE OF THE UNITED STATES POSTAL SERVICE TO  
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1. Please refer to the Petition Attachment, folder "RM2021-7\_SPCCS," folder "Workbooks," Excel file "SPCCS\_CostImpact\_Final\_Public.xlsx" (Cost Impact File), tab "TableForProposal NP," cells B36 and D36. The proposed Special Purpose Carrier Cost System (SPCCS) methodology produces significantly different unit costs than the existing City Carrier Cost System – Special Purpose Route (CCCS-SPR) methodology for both Parcels and Collect on Delivery (COD) service.
  - a. Please explain the reason(s) for the 7.92 percent decrease in unit cost for COD service under the proposed SPCCS methodology.
  - b. Please explain the reason(s) for the 6.34 percent increase in unit cost for Parcels under the proposed SPCCS methodology.

**RESPONSE:**

- a. COD is a very small-volume product where the estimates are subject to a large degree of variation. For example, in FY 2020, more than half of the costs for COD were due to pieces recorded from a single CCCS-SPR test.
- b. Small parcels, such as those within the USPS Marketing Mail Parcels product that is the subject of this part of the question, are delivered relatively more frequently on *ad hoc* low-workhour Special Purpose Routes that are generated to support letter routes that are temporarily overburdened. Such routes are difficult to sample in the current SPR-CCCS because of the necessity of scheduling a data collector in advance, combined with the difficulty in predicting the days when such routes will be operating. The SPCCS would not have this difficulty, since it would collect data retrospectively and would report a relatively higher percentage of smaller parcels on the carrier-days in the low-workhour strata. While the USPS Marketing Mail Parcels product itself is a small-volume category with estimates that are subject to a large degree of variation, the increase in costs is consistent with this overall pattern.

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2. Please refer to the Petition Attachment, folder "RM2021-7\_SPCCS," file "SPCCS\_System\_Documentation.pdf" (SPCCS Documentation), which states that "[i]n the second step, allocation, the number of carrier-days to be sampled in each stratum is determined." SPCCS Documentation at 3. Please explain in detail how the number of carrier-days for sampling is determined.

**RESPONSE:**

The Postal Service proposes to sample 2,000 carrier-days for each month of January through November, and 4,000 carrier days in December. The larger number for December enables greater precision for separate estimates for peak season. The total number of carrier days, 26,000 per year, is constrained by limitations on computation resources. However, the proposed total of 26,000 carrier-days per year greatly exceeds the number of manually tested route-days, 1,000 per year, in the current CCCS-SPR.

The number of carrier-days selected for sampling within each stratum is proportional to the number of workhours within each month.

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3. Please refer to the Petition, which states that “[o]ne benefit of the proposed SPCCS is that it enables collection of enough data to estimate separate distribution factors for peak and non-peak time periods” and that “[g]iven the separation of the cost pool and the availability of the data, the Postal Service[] believes an annual update of the hours that are used to weight the combination of the new Monday through Saturday non-peak SPR cost pool variability to be prudent.” Petition at 3-4. Please explain why the hours used to weight the non-peak variabilities will be updated annually while the hours used to weight the peak variabilities will not be updated annually.

**RESPONSE:**

In separating peak and non-peak SPR variabilities, peak is isolated and would then be comprised of only one grouping; therefore, there is no weighting needed (or possible) for the peak SPR variability. In contrast, the non-peak variability reflects the combination of three separate estimates, and such a combination procedure necessarily involves either implicit or explicit weighting.

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4. Please refer to the Petition, which states that under the proposed methodology “[coefficients of variation (CVs)] for non-peak season estimates are expected to be reduced by almost 80 percent relative to the CVs for the current CCCS-SPR full-year estimates. CVs for peak season alone are expected to be reduced by approximately 50 percent relative to the current CCCS-SPR full-year estimates, despite representing only a five- or six-week period of the year.” Petition at 5. Please provide a detailed analysis comparing the CV estimates under the current and proposed methodologies. In your response, please specify for which time periods the current and proposed CVs were estimated, the sources of estimations, and an explanation of the methodology of the analysis.

**RESPONSE:**

The current CCCS-SPR samples approximately 1,000 route-days per year. SPCCS would sample slightly more than 4,000 carrier-days within each peak season, e.g. 4,000 in December, plus a small number of tests in November and January that will be part of the peak season time period (which varies each year). For non-peak, there will be slightly fewer than 22,000 samples – 2,000 per month, less the small number in November and January that fall into peak season.

In general, precision increases, and CVs reduce, proportionally with the square root of the sample size. Therefore, the SPCCS CVs for peak season, compared with CCCS-SPR full-year CVs, are expected to be approximately

$$CV_{SPCCS,peak} = CV_{CCCS-SPR} * \sqrt{\frac{N_{CCCS-SPR}}{N_{SPCCS-peak}}} = CV_{CCCS-SPR} * \sqrt{\frac{1,000}{4,000}} = 0.5 * CV_{CCCS-SPR} ,$$

which is a 50 percent reduction. Similarly, for non-peak, compared with the CCCS-SPR full-year CVs,

$$CV_{SPCCS,non-peak} = CV_{CCCS-SPR} * \sqrt{\frac{1,000}{22,000}} = 0.21 * CV_{CCCS-SPR} ,$$

a 79 percent reduction.

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5. Please refer to the SPCCS Documentation, which states that “[CVs] for the estimated annual distribution factors . . . are developed using the replication methods for variance estimation provided by the SAS PROC SURVEYMEANS.” SPCCS Documentation at 7 (citation omitted). Please state the precise replication method used for the estimation, explain the method, and state the reason(s) for the preference of the method used over any other available replication methods, or the Taylor series (first order) approximation method that was previously used.

**RESPONSE:**

Replication methods remove the necessity for assuming that the sampling error within carrier-days is very small compared to the overall sampling error, an assumption necessary for the Taylor's series approximation for estimating CVs.<sup>1</sup>

The program to estimate CVs has not yet been finalized. The bootstrap technique is not available in SAS for producing the ratio estimates that are needed by the SPCCS, therefore other approaches, including other replication approaches, are currently under investigation.<sup>2</sup>

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<sup>1</sup> USPS-FY20-34, City Carrier Cost System Documentation, p. 20

<sup>2</sup> SAS/STAT 14.2 User's Guide, The SURVEYMEANS Procedure, Bootstrap method, p. 9302

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6. Please refer to the SPCCS Documentation, which states that “[a]fter obtaining the total hours for each sample unit, hours by operation number are used to classify the route type as parcel, combination, [labor distribution code (LDC)] 24, or other.” SPCCS Documentation at 2. In Docket No. ACR2020, the Postal Service explained that the classification process in CCCS-SPR entails classifying each route type as parcel, relay, combination, or other.<sup>3</sup> Please confirm that the LDC 24 and “other” classifications used in the proposed methodology represent the same routes as the relay and “other” classifications used in Library Reference USPS-FY20-34, respectively.

**RESPONSE:**

Not confirmed. LDC 24 was not a part of the CCCS-SPR. Relay, which used to be included in the CCCS-SPR, would be excluded in the SPCCS. In addition, office time would now be included in the SPCCS, not just street time as in the CCCS-SPR. These changes would be consistent with the methodology used to develop volume variabilities in the methodology approved in Docket No. RM2019-6.<sup>4</sup>

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<sup>3</sup> See Docket No. ACR2020, Library Reference USPS-FY20-34, December 29, 2020, file “USPS-FY20-34\_CCCS\_Preface.pdf,” at 16.

<sup>4</sup> Order No. 5405, Docket No. RM2019-6, January 14, 2020.

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7. Please refer to the SPCCS Documentation, which states that “[s]tratification is the process of assigning units with similar characteristics to the same group.” SPCCS Documentation at 2. Please also refer to the Petition, which states that “[a]n additional benefit of SPCCS is that it enables separate estimates by the carrier subcategory, part- or full-time.” Petition at 6.
- a. Please explain the purpose of stratifying sample units in general in the Time and Attendance Collection System (TACS) data for the purpose of estimating SPR costs.
  - b. Please explain the purpose of stratifying sample units in the TACS data by parcel, combination, LDC 24 routes, and “other routes” for the purpose of estimating SPR costs. In your response, please explain how these various strata differ and why that difference is significant.
  - c. Please explain the purpose of stratifying sample units in the TACS data by carrier subcategory for the purpose of estimating SPR costs. In your response, please explain how these various strata differ and why that difference is significant.
  - d. Please explain the purpose of stratifying sample units in the TACS data by “high” or “low” classifications based on the total LDC 23/24 hours for the purpose of estimating SPR costs. In your response, please explain how these various strata differ and why that difference is significant.

**RESPONSE:**

- a) The purpose of stratifying sample units that are more homogeneous is to reduce the variance of estimates.
- b) The mix of parcel products delivered varies by route type, and stratification by this attribute reduces the variance of estimates. The much larger number of samples obtained by the SPCCS enables Parcel, Combination and Other carrier-days to be placed into separate strata. This was not possible in the CCCS-SPR due to insufficient number of samples. Similarly, there are sufficient samples in the SPCCS to group the newly introduced LDC 24 carrier-days into their own strata.



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- c) Stratification by carrier subgroup provides the opportunity to inspect for possible additional differences between the carrier subgroups.
- d) "Low"-workhour carrier-days are used more frequently to support letter routes that are temporarily overburdened, such as during peak season and on days adjacent to holidays, and which deliver a mix of parcels that is closer to what is delivered by letter-route carriers. "High"-workhour carrier-days tend to be found in heavily-urbanized areas, including support for parcel delivery for foot routes in urban areas.

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8. Please refer to the Petition, which states that “[a] final benefit is that SPCCS does not require labor resources for manual data collection, further assisting the Postal Service by reducing data collection costs.” Petition at 6. Please confirm that the Postal Service has estimated the savings in data collection costs under the proposed methodology.
- a. If confirmed, please provide the estimated cost savings.
  - b. If not confirmed, please explain the reason the Postal Service has not estimated the potential cost savings.

**RESPONSE:**

a-b) Confirmed. It is estimated that eliminating 1,000 manual tests annually will reduce data collection costs by approximately \$200,000 per year.

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9. Please refer to the SPCCS Documentation, which states that “[u]sing the route type, employee type, and hours usage information, each sample unit is assigned to one of twelve strata.” SPCCS Documentation at 3. Please explain why “other routes” and LDC 24 routes do not have stratification by carrier subcategories (full-time and part-time).

**RESPONSE:**

Because there are very few workhours for the “other routes” and “LDC 24 routes”, there would be potential for empty cells if those were further subdivided by carrier subcategories, necessitating grouping of those subcategories in order to produce estimates.